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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,802	12/12/2001	Bhupender S. Minhas	GJH-0129	2004

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EXAMINER

NGUYEN, TAM M

ART UNIT PAPER NUMBER

1764

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/021,802

Applicant(s)

MINHAS ET AL.

Examiner

Tam M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/26/03, 8/19/02, 12/10/02</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-7 and 11 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3-9 and 12-15 of U.S. Patent No. 6,649,061. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims claim a method to separate sulfur compounds from a light hydrocarbon feed by using a non-ionic membrane. The patented claimed set does not claim that the membrane has less than 3% weight gain in a swelling test in gasoline and does not claim that the membrane shows a corresponding increase in selectivity with increase temperature. However, the membrane of the patented claimed is the same as the present claimed membrane. Therefore, the patented membrane would have the same characteristics as the present claimed membrane.

Claims 1 and 3-12 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5, 8-11, and 16-19 of copending Application No. 10/636,726. Although the conflicting claims are not identical, they

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are not patentably distinct from each other because both set of claims claim a process for separating sulfur compounds from a hydrocarbon feed by using a non-ionic membrane. The copending Application does not claim that the membrane has less than 3% weight gain in a swelling test in gasoline and does not claim that the membrane shows a corresponding increase in selectivity with increase temperature. However, the membrane of the copending claimed set is the same as the present claimed membrane. Therefore, the claimed membrane of copending application would have the same characteristics as the present claimed membrane.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 7-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Sartori et al. (5,396,019)

Sartori discloses a process for separating sulfur compound (e.g., thiophene) from a light naphtha feed by contacting the feed with a non-ionic membrane to provide a sulfur-rich permeate and a sulfur-lean retentate. The feed comprises about .05 wt. % (500 ppm) of sulfur. From Examples 7 and 8, it is estimated that the amount of sulfur in the sulfur-lean retentate would be within the claimed amount. (See abstract; col. 2, lines 54-63; col. 3, lines 1-20)

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Claims 1-3 and 6-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Sweet et al. (5,643,442).

Sweet discloses a process for separating sulfur compounds (e.g., thiophene) from a hydrocarbon feed (e.g., gasoline) by contacting the feed with a non-ionic membrane. The sulfur compounds are permeated through the membrane to form a sulfur-rich permeate and a sulfur-lean retentate. The feed comprises about 1145 ppm. The retentate comprises about 3.5 ppm of sulfur. It is not that Sweet does not specifically disclose that the membrane is a water soluble membrane. However, Sweet discloses that the membrane comprises sulfone. Therefore, the membrane of Sweet is a water-soluble membrane. (See col. 2, lines 30-35; col. 3, lines 41-65; col. 5, lines 17-20; col. 6, line 45 through col. 7, line 60)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sweet et al. (5,643,442) in view of Wenthold et al. (5,683,584)

Sweet does not disclose that the membrane comprises polyvinylpyrrolidone.

Wenthold discloses a hollow fiber membrane comprising polyvinylpyrrolidone. (See col. 4, lines 34-58)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Sweet by using a membrane comprising polyvinylpyrrolidone as taught by Wenthold because Sweet teaches that the membrane can be used in hollow fibers and Wenthold teaches that the hollow fiber membrane is improved when it comprises polyvinylpyrrolidone.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sweet et al. (5,643,442) in view of Black et al. (4,802,987).

Sweet does not disclose that the membrane comprises cellulose triacetate.

Black discloses a process for separating aromatic hydrocarbons from a hydrocarbon feed by using a membrane comprising cellulose acetate. (See abstract)

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Sweet by using a membrane comprising cellulose acetate as taught by Black because such membrane is effective to separate aromatics from a hydrocarbon feed.

Black does not disclose that the membrane comprises cellulose triacetate.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Sweet/Black by using a cellulose triacetate because one of skill in the art would use any cellulose acetate including cellulose triacetate because it would be expected that the results would be the same or similar when using cellulose triacetate, cellulose diacetate or cellulose acetate in the process of Sweet.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tam M. Nguyen whose telephone number is (571) 272-1452. The examiner can normally be reached on Monday through Thursday.

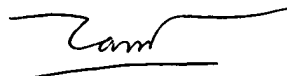
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tam M. Nguyen
Examiner
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TN

A handwritten signature in dark ink, appearing to read 'Tam', with a horizontal line underneath it.